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ABSTRACT

This report presents the results of a curriculum project which produced an instructional design for field supervision. The primary objective was to operationalize the "systems approach" to field supervision by showing how the theory/practice synthesis, learning theory, and variation of newer instructional designs could be used in the student teaching practicum at the University of Illinois, Chicago Circle Campus. The instructional design, placed in the context of learning theory, consists of nine components and a flow chart model depicting the components and their relationships in achieving objectives applicable to a specific skill(s) or concept needed by the student teacher. Included in the report are guidelines for developing a self-instructional package (SIP) focusing on a specific skill or concept needing mastering by the student teacher. The concomitant use of the SIP based on this instructional design in a learning/teaching classroom setting is intended to (1) provide self-paced, individualized learning for the student teacher; and (2) provide systematic feedback and evaluation of the student teacher's performance by both the classroom cooperating teacher and the college supervisor. A self-instructional package, with self-contained units, developed within the framework of a nine-component instructional system is currently being used to help students acquire specific skills associated with the open classroom concept. (Author)

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IMPLICATIONS OF LEARNING THEORY IN A SYSTEMS APPROACH TO SUPERVISION

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INTRODUCTION

The primary objectives of this project in Learning Theory and Application were as follows: (1) to assist the faculty in the Department of Curriculum, Instruction and Evaluation in redesigning the student teaching practicum utilizing an individualized self-paced approach, (2) to formulate a rationale based on learning theories which supports the self-paced approach in mastering teaching skills, and (3) to design a visual aid (flow chart model) to illustrate how theory/practice synthesis, learning theory and variation of the newer instructional designs can be made applicable to the student teaching practicum.

In addition, it was assumed that the systems approach design for supervision would add a unique dimension to the traditional apprenticeship model of teaching-learning in a classroom setting by providing (1) self-paced learning for the teacher-trainee, and (2) systematic feedback and evaluation of classroom performance by the college and classroom supervisor.

BACKGROUND AND SIGNIFICANCE

This section is devoted to a discussion of the reasons for considering a systems approach to supervision.

First, this project is a follow-up to a pilot study completed earlier by the researcher to test the hypothesis that student teachers demonstrate better classroom performance if performance objectives were employed to assess performance during the practicum by both the cooperating teacher and college supervisor. The results of this study in Applied Research and Evaluation made it possible to conclude that the use of performance objectives during the practicum with student teachers indicated significant improvement in classroom performance.

Second, because the self-paced approach to instruction is making significant modification in the traditional methods of college level instruction, it was therefore assumed that the individualized, self-paced approach to learning would be applicable to the student teaching practicum.

Third, it has been pointed out that a "systems approach" in management as well as in instructional contexts is one of the more significant advances in education. It is possible through a systems approach to develop an empirically based process model directed at representing and controlling the complex interrelationships of the teacher-student instructional environment. Although empirical models in education are not new, they have been

employed in piece-meal, additive fashion rather than from a perspective of dealing with the total environment (Zefferblatt, 1973).

Consequently, this project was implemented to assist the goal of moving the teacher training program more in line with the emerging concept of supervision by objectives (McNeil, 1973). Hence, attention was given to the broader aspects of the teacher training program. Following are other concerns to be considered.

For the most part the supervision of student teaching has been an unexamined area of instruction and untouched by newer instructional designs. The haphazard "hit and miss" traditional apprenticeship model is not in congruence with competency-based teacher education. Because the developer was concerned with the individualization of student teaching, the next step proposed was to design and try out an instructional system in order to determine how effective it would be in moving the teacher training program more in tune with competency-based teacher education.

Moreover, it was assumed that the proposed instructional design for supervision utilize the systems approach because of the following significant factors: (1) The systems approach has built-in flexibility for alternatives, variation in learning styles and time needed to master a specific learning task, and (2) an absence of one-directional structure by allowing not only "feedback" but also "feedforward" (Banathy, 1968).

In sum: The procedures followed in implementing this project in Learning Theory and Application were as follows:

1. A review and analysis of the literature pertaining to theorists and theories related to modern instructional systems.

2. A rationale for the selection of the components for a systems approach to supervision.

3. A flow chart model designed by the researcher graphically depicting the components and their interrelationship in achieving objectives in a supervisory, instructional design which would be applicable to a specific skill(s) needed by the teacher-trainee.

The next section of this paper will be devoted to the procedures followed for the purpose of gathering data for a systems approach to supervision.

PROCEDURES

The basic step in designing an instructional system was to consider the implications of learning theory in the development of any curriculum, and how a knowledge of curriculum principles parallels the systems approach to instruction.

There are three major principles of curriculum development which have obvious implications for any instructional design consistent with the psychology of learning (Tyler, 1969). First, after gaining knowledge of the learner's previous experience and achievement, it is futile to assume that all learners will progress at the same rate or should follow a predetermined sequence of instruction. In the area of supervision the student is expected to learn through "doing." Hence, learning becomes more permanent and meaningful if there is an opportunity to use such knowledge and skills in situations which are like or similar to later use. Thus a specific skill needed for a student teacher can be practiced, evaluated, and perfected better in a structured, systematic approach with the student in a classroom setting practicing the behavior.

Second, awareness of the fact that learning can produce multiple outcomes can be more effectively and efficiently taken advantage of if a student teacher is not permitted to progress superficially guided by either the classroom teacher or college supervisor. Using a systems approach can not

only mission-orient specific knowledge and skills needed by a teacher-trainee, but also controls the development of positive attitudes and continued interest in an area.

Finally, in relation to psychological findings that learning experiences which are consistent with each other, i.e., integrated and coherent, reinforce each other; whereas, learning which is compartmentalized, or is inconsistent with each other require greater time and may actually interfere with learning. A systems approach should eliminate this possibility through a careful selection of components combined into a composite whole.

Consideration of the above psychological principles in curriculum construction provided a framework for the examination of programmed materials and its impact on changing the traditional mode of instruction. Following is a discussion of the pros and cons of programmed materials and attempts at individualizing instruction.

During the Seventies, there has been a growing body of commercially prepared materials for student use from the primary grades to the college level. These commercially prepared materials focus on (1) the individual student and (2) emphasize goal setting or instructional objectives. There are currently being used many variants of individualizing college level instruction for regular courses, such as "mini-courses" and learning packages. Instructors at the college level tend to use the self-instructional material either as supplemental, whole class, or simple as diagnostic tools to help students acquire skills for a course.

As pointed out earlier, although individualizing is the most widely innovative technique for focusing college level instruction on the individual, little consideration has been given to the utilization of this approach to an instructional design for the supervision of student teachers. Because the major problem in designing a flow chart model for supervision of student teaching was to examine current types of self-instructional programs, for the purpose of analysis, and synthesizing the strengths of individual materials; the table (Edling, 1972) on the following page was utilized for this purpose. Edling (1972) has made a useful classification of the types of individualized instruction.

The data in the table illustrate the obvious strengths and weaknesses found in current materials used for individualizing instruction.

Type A, a form of individualized instruction, is most prevalent but is limited. Its obvious limitation is that it is simply programmed instruction with only the learner's beginning point and rate of progress varying from those of other learners. On the other hand, its obvious strength is that it has the characteristics of a performance based curriculum wherein identical objectives and performance standards for all learners use. Additionally, many commercially prepared and teacher developed materials apply this system approach to variously called instructional programs: minisystems, learning packages and learning kits. However, they do not fit, nor can they be readily adapted to the supervision of student teachers in a classroom setting. Moreover, it is impossible for commercial

TABLE I

Media	Objectives	
	School-determined	Learner-selected
School-determined	Type A Individually diagnosed	Type B Personalized
Learner-selected	Type C Self-directed	Type D Independent Study

producers of packages to anticipate each learner's objectives or to provide effectively alternate sequences needed to permit variations for both the supervisor and the student teacher's selection. It is the researcher's position that devices for performance criteria, diagnosis, or pre-assessment can be best developed by the producer of the learning system. In other words, the instructor must be personally involved with the program.

There are obvious strengths in the selection of Type B and Type C. In Type B, the learner chooses his objectives; in Type C, the learner chooses his media. But observation indicates that in regular college courses teachers are rarely willing to allow Type B and C activities even if the package permits it. To compensate for this weakness, a package designed for student teaching would have to insure the flexibility needed for choice and selection of activities.

Lastly, Type D focuses on independent study and is uniquely a student selected objective/media program and performance objectives and criteria must be individually developed if used at all. The obvious limitations of Type D is that the student is not in close contact with the teaching and learning process involving students in the elementary classroom setting.

In sum: The major objective in designing a flow chart model showing the interrelationship of components was to capitalize on the strengths and weaknesses found in current materials used for individualized instruction. Thus the solution was to take a broadened conception of programmed instruction in designing a model for supervision which would attempt to

eliminate weaknesses found in the programmed instruction movement which received its major impetus from the writings of B. F. Skinner in the Fifties. Because of Skinner's influence, the concept of programmed instruction for modifying human behavior was to use reinforcement procedures in the classroom similar to those employed in the laboratory. Consequently, the most efficient method of providing subtle reinforcement contingencies through "programmed" instructional materials came to include these three significant characteristics (Popham and Baker, 1970).

1. Active response of the student to carefully sequenced instructional materials.
2. The provision of immediate knowledge of results, whereby the learner could judge whether his response was correct or incorrect.
3. Self-pacing, whereby the student was able to move at his own rate through the instructional program.

Although the design of a flow chart model should meet these criteria, the gap in the researcher's view is that an instructional design for supervision and the Skinnerian concept tend to be based on a linear conception of instruction, i.e., the student proceding in a straight line through the small segments or "frames" of the instructional materials. This approach to supervision would tend not only to stifle creativity, but also retard the selection of alternatives and become inordinately dull for the student teacher, classroom teacher and college supervisor. Moreover, the teacher-trainee should be more actively involved through a design which

employs branching techniques (Crowder, 1959). The student teaching practicum can become more realistically individualized by permitting more alternatives than the Skinnerian approach which advocates going through a skill sequentially to be mastered during the student teaching practicum. Hence, a design for supervision which illustrates branching techniques, permitting alternatives based on preassessed needs of the student teacher will not only save time, but will also allow the flexibility needed in the teacher-trainee practicum as traditionally structured.

What, then, is the best medium for translating the systems approach to supervision of student teachers? The researcher's view is that the devising of a Self-Instructional Package (SIP) which will concentrate on a specific skill needed by a teacher-trainee. An analog to this approach is the current use of microteaching in teacher training programs for the development of specific teaching skills (Allen, Ryan, 1969). In microteaching the student teacher work on segment directed at specific skills (e.g., probing questions, higher order questions, etc.). These skills are practiced, evaluated in a simulated situation. The Self-Instructional Package (SIP) which the researcher proposes would be used concomitantly in direct classroom experience by the teacher-trainee and would focus on a specific instructional skill and organizational strategy needed in an open classroom environment.

RESULTS

The practicum culminated in an instructional design for supervision consisting of nine components:

1. Rationale
2. Performance Objectives
3. Pre-Assessment
4. Learning Activities
5. Self-Evaluation
6. Suggested Readings
7. Vocabulary
8. Reinforcement Activities
9. Post-Assessment (Instruments and Validation)

The flow chart model in the Appendix illustrates how a Self-Instructional Package (SIP) utilized during the teacher-trainee practicum will operationalize a systems approach to supervision. Following the model flow chart is a discussion of the reasons for the selection of the nine components in developing the SIP and how its use will operationalize the "systems approach" to supervision and provide for individualization during the practicum.

This instructional design for field supervision is currently being used by the developer to help bring student teachers' experiences in congruence with the latest approaches in developing open classroom environments.

1. Rationale

The Teacher-Trainee (TT) is introduced to the SIP acquainting him with its relevance to his/her needs, and the skills and concepts to be developed through a College Supervisor/TT Interview Conference.

2. Performance Objectives

The TT is given precise performance indicators against which progress during the practicum can be measured. This foreshadows the evaluation at the end of the practicum by specifying the quality of performance expected.

3. Pre-Assessment

The pre-assessment is based on the objectives of the SIP. It helps the TT and the college supervisor to determine what activities are needed during the practicum based on the entry behaviors of the TT. It serves as a guide to a selected sequence of learning activities. The pre-assessment compared to the post-assessment at the end of the practicum will give tangible evidence of performance. As an outcome the TT should learn the skill of investing time wisely during the practicum.

4. Learning Activities

A variety of learning activities that employ different instructional modes are provided to meet the learning styles of the TTs. Ex. Preparation of classroom materials (workshops); the on-campus seminar; interschool visitation; directed readings; OIR/AV lab; Curriculum library.

5. Self-Evaluation

The supervisor and the classroom teacher help the TT to make professional decisions by mid-quarter regarding his skills and possibilities for improving the skills, where necessary, through additional alternative learning activities. This gives the TT insight into his ability to meet the objectives of the SIP and to assess his progress toward attaining the skills in the practicum setting.

The following three components may be viewed as a reservoir which may be utilized anytime by the TT during the practicum.

6. Suggested Readings

In addition to the prescribed learning activities, the SIP includes reference to duplicated materials, a bibliography (list of films, games, and manipulatives), and observation activities.

7. Vocabulary

The vocabulary germane to the SIP is included to assist the student in acquiring the necessary verbal competence which is correlated with concepts of the SIP theme.

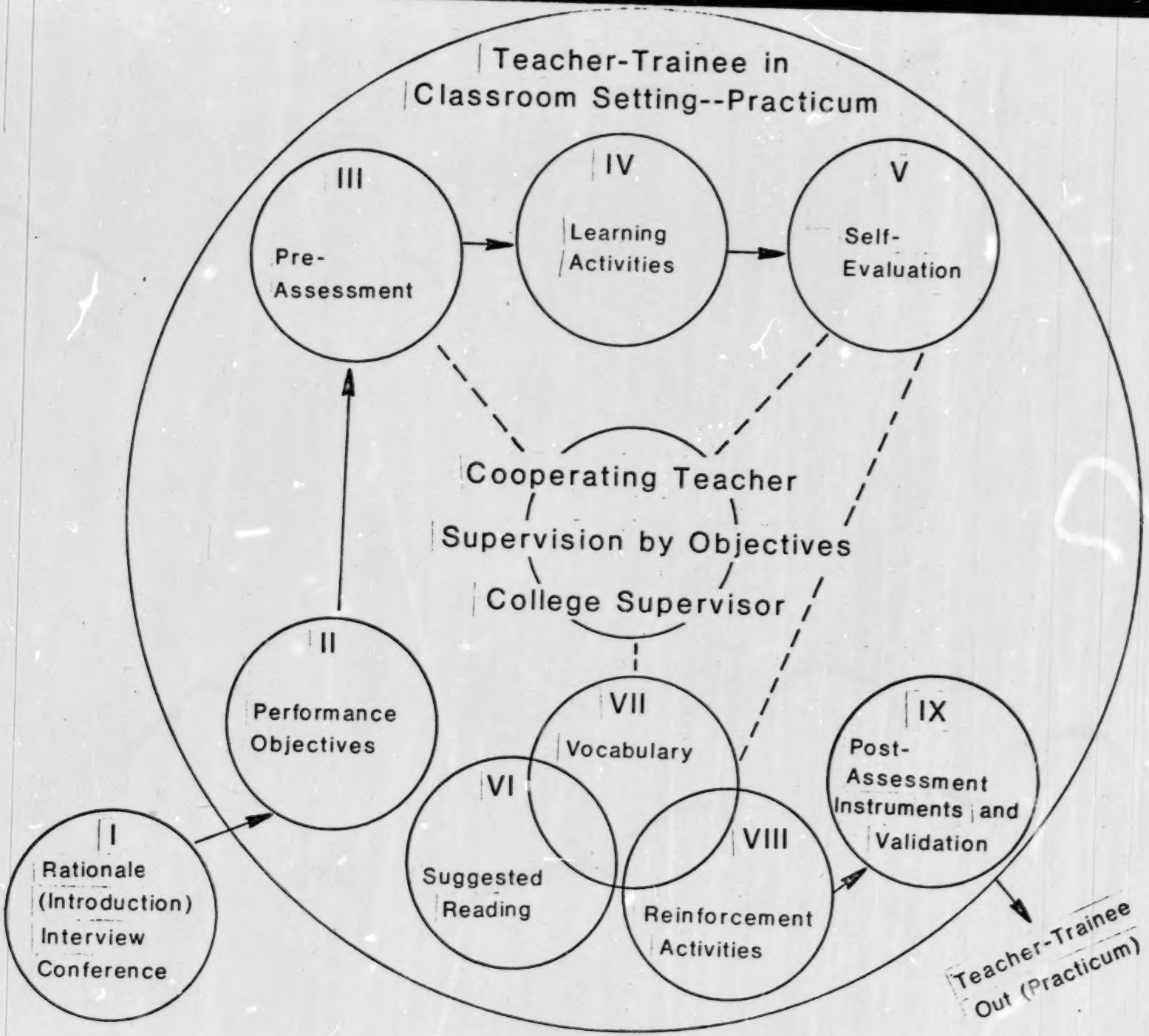
8. Reinforcement Activities

The reinforcement activities related to the theme of the SIP (may be carried out in the classroom, on-campus seminar, pursued independently or in a small group) are included to sharpen the newly acquired skill and to learn to apply the skill creatively.

9. Post-Assessment Instruments for Teacher-Trainee Feedback and Evaluation of the SIP

The assessment instruments attempt to provide tangible evidence of performance. Instruments to be developed will not only measure the TT performance in terms of precise criteria but attitudes and validation data will also be obtained in the various components of the SIP.

APPENDIX



Teacher-Trainee enters (Practicum)

----Feedback, recyling line

Gloria S. Gibbs

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